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ABSTRACT

This report describes a study which used computer analyses of the center's film booking records for fiscal year 1981 to identify those subject areas in the collection for which holdings did not seem to accurately reflect the clientele's levels of interest, as indicated by their use of the collection. Results identified 60 subject areas which met operationally defined conditions for overuse, and ranked them in order of need for strengthening with new titles. A high denial-to-booking ratio was found in 74 subjects, in which no more than 75 percent of the requests were filled, and 22 subject areas met conditions for underuse. The intended use of this information was to assist management in deciding in which subject areas to concentrate acquisitions and weeding efforts, in order to have the greatest impact on overall collection quality. The appendix includes the PL/I program used in analyzing the use data and the tables generated by running the program. Seven references are listed. (Author/LMM)

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THE UNIVERSITY OF ILLINOIS FILM CENTER COLLECTION USE STUDY

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The following document, The University of Illinois Film Center Collection Use Study, was prepared by Terry R. Mills as his C.A.S. Project (LIS 459) and submitted to the University of Illinois Graduate School of Library and Information Science in partial fulfillment of the requirements for the degree of Certificate of Advanced Study. The project was accepted by a review committee composed of Professor F. Wilfrid Lancaster, GSLIS, Assistant Professor Jerome K. Miller, GSLIS, and Stephan C. Johnson, Coordinator of Marketing and Public Relations, University of Illinois Film Center, on July 29, 1982.

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THE UNIVERSITY OF ILLINOIS FILM CENTER

COLLECTION USE STUDY

Introduction

This report describes a collection use study recently conducted for the University of Illinois Film Center (UIFC) by the author, one of the UIFC's research associates. The study, which involved computer analyses of the UIFC's film booking records for fiscal year 1981 (July 1, 1980, through June 30, 1981), was designed to identify those subject areas in the collection where the amount of holdings did not seem to accurately reflect the apparent interests of the UIFC's clientele, as indicated by their use of the collection. The intended use of the information generated by the study is to assist management in deciding on which subject areas to concentrate acquisitions and weeding efforts so that the collection will better reflect its users' interests.

The Setting for the Study

The University of Illinois Film Center is one of the nation's largest film rental libraries, with 16mm film holdings of approximately 15,000 titles and 34,500 prints at the end of fiscal year 1981. The collection is used by educational institutions, businesses, governmental agencies, the military, hospitals and other groups and individuals across the nation, with bookings (film circulations) for fiscal year 1981 totaling approximately 120,000.

In recent years, the UIFC has exhibited considerable interest in the film selection process and how it might be improved. During June 1980, the UIFC convened a special conference on the selection of 16mm films, with several nationally recognized film consultants in attendance; in May 1981, the

UIFC adopted its first materials selection policy, one of only a few such policy statements found in university film centers in the United States; and during the summer and fall of 1981, the UIFC assembled a task force of UIFC staff members to review the entire process by which films were identified for preview, evaluated, selected, technically processed and later reviewed for possible withdrawal from the collection.

During the review of the UIFC's entire selection/acquisitions process, two of the topics discussed by the task force were the fact that although a number of the films received by the UIFC for preview were unsolicited, a very large percentage of what was evaluated was recommended for purchase and eventually bought, and the fact that the UIFC has never actually had a regular program for weeding the collection, that films were primarily withdrawn on the basis of their condition and lack of use, not their content. Concerned that the apparent lack of discrimination in the selection process might have caused the collection to grow in the film distributors' and the selection coordinator's areas of interest, which are not necessarily the areas of interest of the UIFC's clientele, and the fact that the maintenance and distribution of obsolete films might be injuring the UIFC's credibility as a distributor of quality films, the task force recommended that a collection use study, similar to the ones performed in the evaluation of library collections, be performed and the results used as the basis for deciding where to concentrate acquisitions and weeding efforts.

Development of the Study

Investigation of the Literature

One of the first steps in developing the techniques used in analyzing the UIFC collection's use was to investigate what had been tried and found successful in previous collection use studies.[1] In particular, the author examined several "relative use" studies, studies in which the amounts of use received by

various segments of a collection, such as subject areas and publication date periods, were compared to the expected amounts of use for the segments, based on their relative sizes. Assuming that if a collection accurately reflects the interests of its user community the percentage of use of any segment will approximate its percentage of the collection's total holdings, comparisons of these two percentages will reveal where a collection least reflects its user community's interests. Advice on interpreting and applying the results of relative use studies has been offered by Lancaster:

> Interpretation of circulation data of these kind require considerable caution. The data simply indicate a deviation from expected behavior but do not, in themselves, provide any explanation for this deviation. The extent to which the use of a class varies from the expected use is an indicator of the degree to which the contents and size of that class correspond with the present interests of library users. An underused class will be one whose contents seem to exceed present user needs. A heavily underused class may contain items that are no longer current or it may be a class that represents a subject for which interest is declining in the community to be served. A class underused for the former reason should be weeded to eliminate out-of-date materials, and strengthened by the purchase of newer titles and editions. A class underused for the latter reason should be flagged as one in which future purchases can be greatly restricted or even, in some cases, curtailed completely. An overused class is one that would seem to need strengthening. Since the present use exceeds expectations, the danger exists that the class will not be strong enough to support existing and future demands of users. Strengthening may be achieved through the purchase of new titles or through purchase of duplicate copies of titles known to be in great demand.[2]

Over the years, various proponents of relative use type studies have developed different techniques for comparing percentages of use and holdings. Bonn, in his review of collection evaluation literature, described the technique he employed in studies of three Indian libraries in 1970:

> Proportionate circulation statistics by subject class compiled over a definite period are excellent checks on overall selection policies and acquisition rates when compared with proportionate holdings statistics by subject class. The ratio of use to holdings in specific subject classes, both expressed as percentages of the respective totals, is the "use factor" for that subject class and may be determined as specifically or in as much detail as desired, provided that both the circulation and holdings statistics are equally specific or detailed in the first place.[3]

This use factor described by Bonn is an indicator of a subject area's number of

uses per item in relation to the average uses per item for the collection of which it is a part. A use factor of 1, which would be obtained whenever a subject area's percentages of use and holdings were the same, would indicate that the subject area received the same number of uses per item as the collection average. A use factor greater than 1 would indicate that a subject area received more uses per item than the collection average, while a use factor less than 1 would indicate that a subject area received fewer uses per item than the collection average. An extension of this use factor was incorporated into the UIFC collection use study and will be described more fully later.

Trochim et al.,[4] in a study of three midwestern college libraries in 1979, related the percentages of holdings and use of subject areas in those collections to each other by subtracting the former from the latter. The larger the absolute difference between the two percentages, the greater the number of items a subject area would seem to need to be increased or decreased by in order to reflect user interests. This technique was also used in the UIFC study.

While one would want to be able to rank subject areas on the basis of their relative use indicators, the techniques described by Bonn and Trochim would yield quite different rankings from the same data. Although each technique attempts to relate a subject area's use to the size of its holdings, and to an extent succeeds, each technique does have its limitations, which are best illustrated by example. Consider two subject areas, the first containing 0.1% and the second 1.0% of a collection's holdings and accounting for 0.2% and 2.0% of its use, respectively. Each subject area would have a use factor of 2, as 0.2/0.1 and 2.0/1.0 both equal 2. Common sense, however, tells us that the two subject areas are not in need of the same amount of strengthening; the second, larger one would require far more new titles and/or duplicate copies of popular titles before it accurately reflected the amount of interest shown in the area

by the collection's users. Now consider two other subject areas, these containing 0.5% and 2.5% of a collection's holdings and accounting for 0.7% and 2.7% of its use, respectively. Here, the difference between the percentages of use and holdings for both subject areas is the same, 0.2, but comparison of their use factors would indicate that the smaller subject area, which received 40% more uses per item than the collection average, would be the better choice to strengthen. In fact, in this hypothetical example the second subject area received only 8% more uses per item than the collection average, making it difficult to consider it significantly overused by that particular relative use indicator. Because of difficulties like these in interpreting the results of either technique for comparing percentages of use and holdings alone, the two relative use indicators were combined in the UIFC study. How this was done will be described in the next section.

Developing the Methodology

After investigating some of the techniques used by others in estimating the relative use of subject areas within a collection, the author set out to develop a computer program that would combine the strengths of both relative use indicators described in the last section and eliminate, at least partially, their shortcomings. The goal of the program was to target for collection development efforts only those subject areas that were considered significantly overused or underused by both relative use indicators, that is, those subject areas that had received far more or far less uses per film than the UIFC collection average and would require considerable strengthening or weeding in order to reflect the amount of interest shown in the subject areas by the UIFC's user community.

As previously mentioned, the use factor, or ratio of the percentage of use of a subject area to its percentage of holdings, was modified for use in

this study. The modification was to multiply the use factor by 100, producing a statistic called the "percentage of expected use." As we would expect a subject area to account for approximately the same percentage of use as its percentage of holdings, by multiplying the use factor by 100 we can determine the percentage the actual amount of use was above or below the expected amount. For example, we would expect a subject area containing 1.0% of a collection's holdings to account for 1.0% of its use. If, however, the subject area accounted for 2.0% of the use, it would have a use factor of 2 (2.0/1.0 = 2) and a percentage of expected use of 200; we would say that the subject area accounted for 200% of its expected use, or 100% more use than was expected from it. If, on the other hand, the subject area accounted for only 0.5% of the collection's use, it would have a use factor of 0.5 (0.5/1.0 = 0.5) and a percentage of expected use of 50; in this case we would say that the subject area accounted for only 50% of its expected use, or 50% less use than was expected from it.

The technique of finding the absolute difference between the percentages of holdings and use in order to estimate the relative amount of strengthening or weeding needed in a particular subject area, as described by Trochim, was used without modification.

In the UIFC study, percentages of holdings were calculated based on the fiscal year 1981 figure of 34,500 prints, while percentages of use were calculated based on the fiscal year 1981 figure of 120,000 bookings. Relative use indicators were calculated from the percentages of holdings and use for each of the 461 subject areas into which films are categorized and then tested to see if they met the operationally defined conditions for overuse or underuse. Overused subject areas were operationally defined as those with percentages of expected use of 125 or more (that is, those that accounted for at least 25% more use than was expected from them) and absolute differences between their per-

centages of holdings and use of 0.15 or greater. (This percentage, 0.15, happens to correspond to approximately 50 prints (actually, 51.75 prints), implying that subject areas operationally defined as overused may be in need of at least 50 additional prints before the UIFC's holdings would more accurately reflect the amount of interest shown in the areas by the UIFC's clientele. This figure is merely a very rough estimate, however, as one can never truly know how many new titles and duplicate copies of popular titles to add, nor exactly in what combination, to accurately reflect clients' interests.) Underused subject areas were operationally defined as those with percentages of expected use of 75 or less (that is, those that accounted for at least 25% less use than was expected from them) and absolute differences between their percentages of holdings and use of 0.15 or greater (that is, those with values of -0.15 or less after subtracting the percentage of holdings from the percentage of use). (While it is difficult to say that an overused subject area may need upwards of 50 additional prints, it is even more difficult to say how many obsolete films may be found in and weeded from underused subject areas as there are several possible reasons why a subject area might appear to be underused. Some of these reasons were described by Lancaster; others will be described later in this report when discussing the results of the study.)

As previously mentioned, an overused subject area may be strengthened through the purchase of new titles or through the purchase of additional prints of popular titles. At the UIFC, deciding which action to take can be partially determined by examining an index of the UIFC's ability to fill requests for titles already in the collection, called the denial to booking ratio (d/b ratio). As films are scheduled through the UIFC's own staff, it is possible to record each time a film request must be turned down, or denied, because there are not enough prints available for a client's particular show date. (The process of

recording this information is called "issuing a denial.") The d/b ratio, found by dividing the number of denials issued for a particular film or subject area into its number of bookings, may be viewed as an indicator of the need for extra prints; the more denials issued in relation to the number of bookings, the more it would appear that the purchase of extra prints would be called for in order to satisfy demand. For example, if out of 100 requests for films in a particular subject area the UIFC were able to fill 75 and had to issue 25 denials, the subject area's d/b ratio would be 0.33 (25/75 = 0.33). By adding extra prints of the films in the subject area that had the highest d/b ratios themselves, one would imagine that the UIFC would be able to fill a greater percentage of the requests received in the future.

For the purpose of the UIFC study, subject areas with very high d/b ratios were identified as being in need of extra prints. A very high d/b ratio was operationally defined as being 0.33 or greater; in subject areas so identified, the UIFC was able to fill no more than 75% of the requests received during fiscal year 1981.

After having chosen the techniques for analyzing the UIFC's collection's use and operationally defining the conditions for identifying the subject areas in need of special attention, the author wrote a computer program in the PL/I language that performed the necessary calculations and analyses on the data and formatted the results into four tables.[5] The first table presents the 461 subject areas of the collection, arranged in the order they appear in the UIFC catalog, along with their percentages of holdings, percentages of bookings, relative use indicators, d/b ratios and comments (recommendations) to add titles, add prints, weed, add titles and prints or weed and add prints, based on their relative use indicators and d/b ratios. The second table is a list of the overused subject areas, sorted in descending order based on the relative

amount of strengthening needed by them. The third table is a list of the subject areas with the highest d/b ratios, sorted in descending order based on that value. The fourth, and last, table is a list of the underused subject areas, sorted in descending order based on the relative amount of weeding apparently needed by them. The program, and the four tables generated by running it, are located in the appendix of this report.

Results of the Analyses

Overused Subject Areas

Table 2 lists the 60 subject areas in the collection that met the operationally defined conditions for overuse. Starting at the top of the list and working down, the subject areas are ranked in order of their need for strengthening with new titles. The higher a subject area is on the list, the more titles the UIFC should probably add to it in order to satisfy expected future demands. (In some instances, a search for new titles may reveal that there are not enough quality productions available on a given topic, despite interest shown in it by the UIFC's clientele. This kind of information would be of obvious value to film makers, who would very likely appreciate having it passed along to them.)

Two particular aspects of table 2 deserve special comment. First, the very top ranked subject area is HUMAN RELATIONS, a large, catchall subject area containing a wide variety of films. (For example, the subject area includes Beyond Theory Y: The Contingency Approach to Organizational Management, Child Molesters: Fact and Fiction, The Civil War: Promise of Reconstruction, A Doonesbury Special, the Holocaust series, Leonard Bernstein and the New York Philharmonic in Moscow, 1959, and Who Are the Debolts--and Where Did They Get 19 Kids?) Because of the size and diversity of the subject area, much closer examination will be required to determine which particular subsets of the area are the most popular and actually warrant strengthening with new titles. Second,

while there are 60 subject areas listed in table 2, the UIFC will not have to look for new titles on 60 unique topics as many of the subject areas found on the list are closely related to other subject areas on the list.[6] For example, there are three subject areas concerning vocational guidance: GUIDANCE--VOCATIONAL, a subdivision of the broader subject area GUIDANCE; VOCATIONAL GUIDANCE, a subdivision of the broader subject area BUSINESS AND ECONOMICS; and another VOCATIONAL GUIDANCE, a subdivision of the broader subject area INDUSTRIAL ARTS. Other groups of related subject areas found in table 2 include: CHILDREN--CARE AND DEVELOPMENT (HOME ECONOMICS), CHILD GROWTH AND DEVELOPMENT (PSYCHOLOGY) and CHILD DEVELOPMENT (EDUCATION); FRANCE (FOREIGN LANGUAGE), FRENCH LANGUAGE (FOREIGN LANGUAGE) and FRANCE--HISTORY (HISTORY--WORLD); EDUCATIONAL PSYCHOLOGY AND METHOD (EDUCATION) and EDUCATIONAL PSYCHOLOGY (PSYCHOLOGY); AUTOMATION AND DATA PROCESSING (BUSINESS AND ECONOMICS), COMPUTERS (MATHEMATICS) and AUTOMATION (SOCIOLOGY); MENTAL HEALTH (PSYCHOLOGY) and MENTAL HEALTH (HEALTH AND SAFETY); DIET AND NUTRITION (HEALTH AND SAFETY) and FOOD AND COOKING (HOME ECONOMICS); GUIDANCE--MARRIAGE AND FAMILY LIFE (GUIDANCE) and MARRIAGE AND THE FAMILY (SOCIOLOGY); and SHOP SAFETY (INDUSTRIAL ARTS) and SAFETY--INDUSTRIAL AND SHOP (HEALTH AND SAFETY).

Subject Areas with the Highest Denial to Booking Ratios

Table 3 lists the 74 subject areas that had d/b ratios greater than or equal to 0.33, that is, the subject areas for which the UIFC was able to fill no more than 75% of the requests received during fiscal year 1981. Ranked in descending order based on their d/b ratios, the subject areas should be more closely examined to find the titles with the highest d/b ratios so that extra prints can be added of them. The number of titles warranting extra prints, and the number of extra prints added per title, will depend upon whether the d/b ratio for the subject area were driven up by high demand for a few titles or

whether demand for films in the area was spread over a number of different titles.

When examining subject areas with high d/b ratios, it is important to consider whether the films in the subject area are seasonal in nature. (An example of a highly seasonal subject area would be STORIES--HOLIDAYS AND SEASONS.) As demand for films in seasonal subject areas is not spread out over the course of a year, the d/b ratios tend to get pushed up while the subject areas exhibit the operationally defined characteristics of underuse. Realizing that the behavior of seasonal films is different, the high d/b ratios and apparent underuse may be considered normal for them. Adding extra prints and weeding are not necessarily called for in these instances.

Underused Subject Areas

Table 4 lists the 22 subject areas in the collection that met the operationally defined conditions for underuse. Careful interpretation of this table is called for as different causes for underuse, or apparent underuse, dictate different actions. Close examination of the contents and use of each subject area will be needed to answer the following questions:

1. Are there any films that could be considered obsolete or otherwise of inferior quality? If so, these films should be withdrawn from circulation, whether they have been receiving bookings or not. As films are ordered on the basis of short catalog descriptions, obsolete materials may receive bookings yet fail to satisfy the needs of those who order them. Distributing such films may only serve to aggravate the UIFC's clientele, and create nonusers out of users. Subject areas that are underused because of the general ages of the materials may also need to be updated with newer titles.

2. Has there been a shift of interest away from this subject area in recent years? If so, the UIFC may consider restricting, or altogether stopping, acquisitions in this area.

3. Are the films in this subject area seasonal? If so, underuse, as well as a high d/b ratio, are perhaps to be considered normal. A program of weeding is not necessarily called for in this instance.

4. Are the films in this subject area categorically different in some way from

the rest of the collection? If so, that difference may be the cause of the apparent underuse. For example, the appearance of the subject area FEATURE FILM in table 4 may be explained by the different nature of the productions, the high rental rates relative to other UIFC films and the fact that the subject area is a relatively recent addition to the catalog. Like seasonal films, comparing the use of feature films to the standard of use set by the rest of the collection is probably inappropriate.

5. Are there any titles that are not receiving bookings, or at best very few? If so, and if there is no reason to consider them obsolete, of inferior quality, in an area away from which interests have shifted or seasonal in nature, attempts to stimulate interest in them through mention in such UIFC literature as the Newsletter or Film and Video Report may help increase their use.

As indicated by the questions listed above, deciding what to do with films in apparently underused subject areas is a much more complex problem than deciding what to do in overused subject areas. The author hopes that by having identified a small, manageable number of highly underused subject areas the task of beginning a program for reviewing films for possible withdrawal from the collection can be started, in areas where it will have the most impact on the overall quality of the collection.

Recommendations

Implement the Results of the Study

After having developed a computer program for empirically deriving collection development priorities from booking records, using the program to analyze data from fiscal year 1981 and writing this report describing the study, the author points out that the most important task for the UIFC remains: implementing the results of the study. As pointed out by Burns, writing on the use of the library statistic as a management tool,

> A statistic has no value until it influences, in a rigorous way, a decision to do or not to do something. Its primary value, therefore, is to management and to the decision making process.[7]

The tables generated for this study are useful only in helping to answer the question, "Of the 461 subject areas in the collection, where should the UIFC

concentrate its acquisitions and weeding efforts?" Having established the priorities, the task of actually identifying titles for preview consideration and then evaluating, selecting, technically processing and reviewing them for possible withdrawal are left in the hands of the UIFC's capable staff.

Rewrite the Program to Run on the UIFC's Computer

In order to reassess the relative use of the collection after films have been acquired and withdrawn where indicated in this study, to monitor the shifting interests of the UIFC's clientele and to establish new collection development priorities as new data becomes available, the author recommends that the PL/I program written for this study be rewritten in COBOL so it can be run at the discretion of the UIFC's administrator on the UIFC's TI 990 computer.

References

[1]A number of different sources were consulted during the preparation of this collection use study. Only those sources helpful in clarifying what the author did in this particular study, however, are cited in this report.

[2]Lancaster, F. W. "Evaluating Collections by Their Use." Collection Management 4(1982):20-22.

[3]Bonn, George S. "Evaluation of the Collection." Library Trends 22 (1974):272-73.

[4]Trochim, Mary K. et al. The Associated Colleges of the Midwest Library Collection Use Study. Lake Forest, Ill.: Lake Forest College, 1980.

[5]The PL/I program written for this study was run on May 14, 1982, on the University of Illinois' IBM 4341 computer, which uses the PL/I Optimizing Compiler, version 1, release 3.1, ptf 70.

[6]It should be noted that films may be classified under several different subject headings and that each of the 461 subject areas into which the collection is divided is a subdivision of a broader subject area. There are nine of these broader subject areas for primary and intermediate level films: fine arts; geography; health and safety; history; language arts; mathematics; science--life; science--physical; and social studies. Adolescent through adult level films break down into twenty-five broad subject areas: agriculture; business and economics; education; foreign language; geography--United States; geography--world; guidance; health and safety; history--United States; history--world; home economics; industrial arts; language arts; literature; mathematics; performing arts; physical education and sports; political science; psychology; science; science--

natural; science--physical; social studies; sociology; and visual arts.

[7]Burns, Robert W., Jr. Library Performance Measures as Seen in the Descriptive Statistics Generated by a Computer Managed Circulation System. Arlington, Va.: ERIC Document Reproduction Service, ED 115 252, 1975. P. 29.

APPENDIX

FILMUSE, a PL/I program for

analyzing film booking data

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FILMUSE:  PROC OPTIONS (MAIN);
  DCL SUBJ(470) CHAR(42), (HLDGS(470), WRONGVALU(470), BKGS(470),
      DIF(470), DBRATIO(470)) FIXED DEC(3,2), EXPCTD(470) FIXED
      DEC(5,2), (TAG(470), N) FIXED DEC(3), LINECT FIXED DEC(2),
      HEADS ENTRY, SORT_D ENTRY((*) FIXED DEC(3,2), (*) FIXED DEC
      (3), FIXED DEC(3)), SORT_A ENTRY ((*) FIXED DEC(3,2), (*)
      FIXED DEC(3), FIXED DEC(3)), MORE BIT(1) INIT('1'B);
  ON ENDFILE(SYSIN) MORE = '0'B;
  DO N = 1 BY 1 WHILE(MORE);
    GET EDIT (SUBJ(N), HLDGS(N), WRONGVALU(N), DBRATIO(N))(A(42),
      X(4), F(4,2), X(5), F(4,2), X(17), F(4,2));
    BKGS(N) = WRONGVALU(N)*1.16;
    EXPCTD(N) = BKGS(N)/HLDGS(N)*100;
    DIF(N) = BKGS(N) - HLDGS(N);
  END;
  N = N - 2;
  PUT PAGE EDIT ('TABLE 1')(COL(53), A);
  PUT SKIP EDIT ('SUBJECT AREAS, PERCENT HOLDINGS, PERCENT ',
    'BOOKINGS, RELATIVE USE INDICATORS, DENIAL TO BOOKING RATIOS ',
    '& COMMENTS')(COL(2), A, A, A);
  PUT SKIP LIST (REPEAT('=', 113));
  CALL HEADS;
  PUT EDIT ('COMMENTS')(COL(101), A);
  PUT SKIP LIST (REPEAT('-', 113));
  LINECT = 7;
  DO I = 1 TO N;
    PUT SKIP EDIT (SUBJ(I), HLDGS(I), BKGS(I), EXPCTD(I), DIF(I),
      DBRATIO(I))(A(47), (2)(F(4,2), X(5)), F(6,2), X(5), F(5,2),
      X(5), F(4,2));
    IF DBRATIO(I) >= 0.33 & EXPCTD(I) <= 75 & DIF(I) <= -0.15
      THEN PUT EDIT ('WEED & ADD PRINTS')(COL(96), A);
      ELSE IF DBRATIO(I) >= 0.33 & EXPCTD(I) >= 125 & DIF(I)
          >= 0.15
        THEN PUT EDIT ('ADD TITLES & PRINTS')(COL(96), A);
        ELSE IF DBRATIO(I) >= 0.33
          THEN PUT EDIT ('ADD PRINTS')(COL(96), A);
          ELSE IF EXPCTD(I) <= 75 & DIF(I) <= -0.15
            THEN PUT EDIT ('WEED')(COL(96), A);
            ELSE IF EXPCTD(I) >= 125 & DIF(I) >= 0.15
              THEN PUT EDIT ('ADD TITLES')(COL(96), A);
    LINECT = LINECT + 1;
    IF LINECT = 51 THEN
    DO;
      PUT SKIP LIST (REPEAT('-', 113));
      PUT PAGE EDIT ('TABLE 1 - CONTINUED')(COL(47), A);
      PUT SKIP EDIT ('SUBJECT AREAS, PERCENT HOLDINGS, PERCENT ',
        'BOOKINGS, RELATIVE USE INDICATORS, DENIAL TO BOOKING ',
        'RATIOS & COMMENTS')(COL(2), A, A, A);
      PUT SKIP LIST (REPEAT('=', 113));
      CALL HEADS;
      PUT EDIT ('COMMENTS')(COL(101), A);
      PUT SKIP LIST (REPEAT('-', 113));
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    LINECT = 7;
  END;
END;
PUT SKIP LIST (REPEAT('=', 113));
CALL SORT_D (DIF, TAG, N);
PUT PAGE EDIT ('TABLE 2')(COL(42), A);
PUT SKIP EDIT ('OVERUSED SUBJECT AREAS')(COL(35), A);
PUT SKIP LIST (REPEAT('=', 90));
CALL HEADS;
PUT SKIP LIST (REPEAT('-', 90));
LINECT = 7;
DO J = 1 TO N;
  IF EXPCTD(TAG(J)) >= 125 & DIF(TAG(J)) >= 0.15 THEN
  DO;
    PUT SKIP EDIT(SUBJ(TAG(J)), HLDGS(TAG(J)), BKGS(TAG(J)),
      EXPCTD(TAG(J)), DIF(TAG(J)), DBRATIO(TAG(J)))(A(47), (2)
      (F(4,2), X(5)), F(6,2), X(5), F(5,2), X(5), F(4,2));
    LINECT = LINECT + 1;
    IF LINECT = 51 THEN
    DO;
      PUT SKIP LIST (REPEAT('-', 90));
      PUT PAGE EDIT ('TABLE 2 - CONTINUED')(COL(36), A);
      PUT SKIP EDIT ('OVERUSED SUBJECT AREAS')(COL(35), A);
      PUT SKIP LIST (REPEAT('=', 90));
      CALL HEADS;
      PUT SKIP LIST (REPEAT('-', 90));
      LINECT = 7;
    END;
  END;
END;
PUT SKIP LIST (REPEAT('=', 90));
CALL SORT_D (DBRATIO, TAG, N);
PUT PAGE EDIT ('TABLE 3')(COL(42), A);
PUT SKIP EDIT ('SUBJECT AREAS WITH THE HIGHEST DENIAL TO ',
  'BOOKING RATIOS')(COL(18), A, A);
PUT SKIP LIST (REPEAT('=', 90));
CALL HEADS;
PUT SKIP LIST (REPEAT('-', 90));
LINECT = 7;
DO K = 1 TO N;
  IF DBRATIO(TAG(K)) >=0.33 THEN
  DO;
    PUT SKIP EDIT (SUBJ(TAG(K)), HLDGS(TAG(K)), BKGS(TAG(K)),
      EXPCTD(TAG(K)), DIF(TAG(K)), DBRATIO(TAG(K)))(A(47), (2)
      (F(4,2), X(5)), F(6,2), X(5), F(5,2), X(5), F(4,2));
    LINECT = LINECT + 1;
    IF LINECT = 51 THEN
    DO;
      PUT SKIP LIST (REPEAT('-', 90));
      PUT PAGE EDIT ('TABLE 3 - CONTINUED')(COL(36), A);
      PUT SKIP EDIT ('SUBJECT AREAS WITH THE HIGHEST DENIAL ',
        'TO BOOKING RATIOS')(COL(18), A, A);
      PUT SKIP LIST (REPEAT('=', 90));
      CALL HEADS;
      PUT SKIP LIST (REPEAT('-', 90));
```

```
        LINECT = 7;
      END;
    END;
  END;
  PUT SKIP LIST (REPEAT('=', 90));
  CALL SORT_A (DIF, TAG, N);
  PUT PAGE EDIT ('TABLE 4')(COL(42), A);
  PUT SKIP EDIT ('UNDERUSED SUBJECT AREAS')(COL(34), A);
  PUT SKIP LIST (REPEAT('=', 90));
  CALL HEADS;
  PUT SKIP LIST (REPEAT('-', 90));
  LINECT = 7;
  DO L = 1 TO N;
    IF EXPCTD(TAG(L)) <= 75 & DIF(TAG(L)) <= -0.15 THEN
    DO;
      PUT SKIP EDIT (SUBJ(TAG(L)), HLDGS(TAG(L)), BKGS(TAG(L)),
        EXPCTD(TAG(L)), DIF(TAG(L)), DBRATIO(TAG(L)))(A(47), (2)
        (F(4,2), X(5)), F(6,2), X(5), F(5,2), X(5), F(4,2));
      LINECT = LINECT + 1;
      IF LINECT = 51 THEN
      DO;
        PUT SKIP LIST (REPEAT('=', 90));
        PUT PAGE EDIT ('TABLE 4 - CONTINUED')(COL(36), A);
        PUT SKIP EDIT ('UNDERUSED SUBJECT AREAS')(COL(34), A);
        PUT SKIP LIST (REPEAT('=', 90));
        CALL HEADS;
        PUT SKIP LIST (REPEAT('-', 90));
        LINECT = 7;
      END;
    END;
  END;
  PUT SKIP LIST (REPEAT('=', 90));
END FILMUSE;
```

```
/* PROCEDURE TO PRINT RECURRING COLUMN HEADINGS */

HEADS:  PROC;
  PUT SKIP EDIT ('% OF')(COL(67), A);
  PUT SKIP EDIT ('%', '%', 'EXPECTED', '%BKGS-', 'D/B')(COL(50), A,
    COL(58), A, COL(65), A, COL(77), A, COL(88), A);
  PUT SKIP EDIT ('SUBJECT', 'HLDGS', 'BKGS', 'USE', '%HLDGS',
    'RATIO')(COL(17), A, COL(48), A, COL(57), A, COL(67), A,
    COL(77), A, COL(87), A);
  RETURN;
END HEADS;
```

```
/* PROCEDURE TO SORT SUBJECT AREAS IN DESCENDING ORDER BASED ON */
/* DIF (% BOOKINGS - % HOLDINGS) OR DENIAL TO BOOKING RATIOS    */

SORT_D:  PROC(ARRAY, TAG, N);
  DCL ARRAY(*) FIXED DEC(3,2), TAG(*) FIXED DEC(3), TAGS(N) FIXED
      DEC(3), N FIXED DEC(3), TEMP FIXED DEC(3);
  DO K = 1 TO N;
    TAGS(K) = K;
  END;
  F = 1;
  DO L = 1 TO N WHILE (F = 1);
    F = 0;
    DO M = 1 TO N - L;
      IF ARRAY(TAGS(M)) < ARRAY(TAGS(M + 1)) THEN
      DO;
        TEMP = TAGS(M);
        TAGS(M) = TAGS(M + 1);
        TAGS(M + 1) = TEMP;
        F = 1;
      END;
    END;
  END;
  DO I = 1 TO N;
    TAG(I) = TAGS(I);
  END;
  RETURN;
END SORT_D;
```

```
/* PROCEDURE TO SORT SUBJECT AREAS IN ASCENDING ORDER */
/* BASED ON DIF (% BOOKINGS - % HOLDINGS)             */

SORT_A:  PROC(ARRAY, TAG, N);
  DCL ARRAY(*) FIXED DEC(3,2), TAG(*) FIXED DEC(3), TAGS(N) FIXED
      DEC(3), N FIXED DEC(3), TEMP FIXED DEC(3);
  DO K = 1 TO N;
    TAGS(K) = K;
  END;
  F = 1;
  DO L = 1 TO N WHILE (F = 1);
    F = 0;
    DO M = 1 TO N - L;
      IF ARRAY(TAGS(M)) > ARRAY(TAGS(M + 1)) THEN
      DO;
        TEMP = TAGS(M);
        TAGS(M) = TAGS(M + 1);
        TAGS(M + 1) = TEMP;
        F = 1;
      END;
    END;
  END;
  DO I = 1 TO N;
    TAG(I) = TAGS(I);
  END;
  RETURN;
END SORT_A;
```

TABLES

TABLE 1

SUBJECT AREAS, PERCENT HOLDINGS, PERCENT BOOKINGS, RELATIVE USE INDICATORS, DENIAL TO BOOKING RATIOS & COMMENTS

SUBJECT	% HLDGS	% BKGS	% OF EXPECTED USE	%BKGS-%HLDGS	D/B RATIO	COMMENTS
ART	1.00	0.88	88.00	-0.12	0.12	
DANCE	0.06	0.05	83.33	-0.01	0.45	ADD PRINTS
DRAMA	0.08	0.05	62.50	-0.03	0.31	
MUSIC	0.71	0.80	112.67	0.09	0.17	
AFRICA	0.33	0.22	66.66	-0.11	0.12	
ASIA	0.52	0.38	73.07	-0.14	0.15	
CANADA	0.14	0.11	78.57	-0.03	0.18	
EUROPE & USSR	0.74	0.68	91.89	-0.06	0.15	
LATIN AMERICA	0.65	0.78	120.00	0.13	0.23	
MAPS & GLOBES	0.24	0.17	70.83	-0.07	0.33	ADD PRINTS
SOUTH PACIFIC	0.05	0.02	40.00	-0.03	0.07	
US GEOGRAPHY-GENERAL	0.24	0.19	79.16	-0.05	0.17	
US GEOGRAPHY-NATIONAL PARKS	0.08	0.09	112.50	0.01	0.12	
US GEOGRAPHY-STATES & REGIONS	0.35	0.18	51.42	-0.17	0.11	WEED
WORLD GEOGRAPHY-GENERAL	0.21	0.16	76.19	-0.05	0.30	
GUIDANCE	1.99	1.41	70.85	-0.58	0.27	WEED
HEALTH & HYGIENE	0.44	0.27	61.36	-0.17	0.22	WEED
HUMAN BODY	0.36	0.27	75.00	-0.09	0.20	
NUTRITION	0.22	0.27	122.72	0.05	0.17	
PHYSICAL EDUCATION	0.12	0.09	75.00	-0.03	0.40	ADD PRINTS
SAFETY	0.56	0.35	62.50	-0.21	0.18	WEED
SEX EDUCATION	0.08	0.03	37.50	-0.05	0.07	
SPORTS	0.14	0.12	85.71	-0.02	0.14	
BIOGRAPHY	0.12	0.12	100.00	0.00	0.24	
US HIST-GENERAL	0.34	0.30	88.23	-0.04	0.22	
US HIST-DISCOVERY & EXPLORATION	0.10	0.09	90.00	-0.01	0.12	
US HIST-COLONIAL & REVOLUTIONARY PERIODS	0.51	0.45	88.23	-0.06	0.12	
US HIST-1783-1900	0.34	0.29	85.29	-0.05	0.17	
US HIST-1900-PRESENT	0.02	0.01	50.00	-0.01	0.05	
WORLD HISTORY	0.44	0.47	106.81	0.03	0.20	
CREATIVE MOTIVATION	0.89	0.73	82.02	-0.16	0.22	
FOREIGN LANGUAGE	0.17	0.26	152.94	0.09	0.23	
LIBRARY	0.09	0.05	55.55	-0.04	0.17	
POETRY	0.17	0.12	70.58	-0.05	0.09	
READING	0.44	0.30	68.18	-0.14	0.17	
SPEECH	0.15	0.10	66.66	-0.05	0.17	
STORIES-ANIMALS	0.81	0.41	50.61	-0.40	0.18	WEED
STORIES-CARTOONS & COMEDIES	0.50	0.32	64.00	-0.18	0.14	WEED
STORIES-GENERAL	2.01	1.65	82.08	-0.36	0.22	
STORIES-HOLIDAYS & SEASONS	0.47	0.19	40.42	-0.28	0.74	WEED & ADD PRINTS
STUDY SKILLS	0.48	0.34	70.83	-0.14	0.34	ADD PRINTS
WRITING	0.31	0.27	87.09	-0.04	0.12	
ARITHMETIC OPERATIONS	0.61	0.47	77.04	-0.14	0.13	
GEOMETRY	0.12	0.06	50.00	-0.06	0.09	

TABLE 1 - CONTINUED

SUBJECT AREAS, PERCENT HOLDINGS, PERCENT BOOKINGS, RELATIVE USE INDICATORS, DENIAL TO BOOKING RATIOS & COMMENTS

SUBJECT	% HLDGS	% BKGS	% OF EXPECTED USE	%BKGS-%HLDGS	D/B RATIO	COMMENTS
MEASUREMENT	0.39	0.32	82.05	-0.07	0.20	
ANIMALS-EVOLUTION & ADAPTATION	0.22	0.17	77.27	-0.05	0.19	
ANIMALS-HABITS & BEHAVIOR	0.66	0.34	51.51	-0.32	0.17	WEED
ANIMALS-REPRODUCTION	0.06	0.02	33.33	-0.04	0.00	
ANIMALS-INVERTEBRATES	0.02	0.02	100.00	0.00	0.23	
ANIMALS-INSECTS	0.26	0.15	57.69	-0.11	0.26	
ANIMALS-FISH	0.05	0.02	40.00	-0.03	0.00	
ANIMALS-REPTILES & AMPHIBIANS	0.13	0.09	69.23	-0.04	0.18	
ANIMALS-BIRDS	0.28	0.11	39.28	-0.17	0.10	WEED
ANIMALS-MAMMALS	0.21	0.12	57.14	-0.09	0.15	
ANIMALS-ZOOS & AQUARIUMS	0.16	0.08	50.00	-0.08	0.14	
BIOLOGY-GENERAL	0.39	0.23	58.97	-0.16	0.24	WEED
CONSERVATION	0.35	0.20	57.14	-0.15	0.14	WEED
ECOLOGY	0.78	0.44	56.41	-0.34	0.15	WEED
PLANTS	0.37	0.23	62.16	-0.14	0.13	
SCIENTIFIC METHOD	0.26	0.18	69.23	-0.08	0.34	ADD PRINTS
AIR	0.11	0.05	45.45	-0.06	0.08	
CHEMICAL CHANGE	0.08	0.10	125.00	0.02	0.33	ADD PRINTS
EARTH SCIENCE	0.59	0.59	100.00	0.00	0.15	
ELECTRICITY & MAGNETISM	0.27	0.22	81.48	-0.05	0.12	
ENERGY & MATTER	0.28	0.20	71.42	-0.08	0.16	
FORCE & MOTION	0.08	0.04	50.00	-0.04	0.17	
HEAT & FRICTION	0.11	0.06	54.54	-0.05	0.12	
LIGHT & COLOR	0.20	0.15	75.00	-0.05	0.09	
LIQUIDS	0.09	0.04	44.44	-0.05	0.22	
MACHINES	0.30	0.19	63.33	-0.11	0.16	
SOUND	0.06	0.03	50.00	-0.03	0.14	
SPACE SCIENCE & ASTRONOMY	0.34	0.23	67.64	-0.11	0.13	
WEATHER & SEASONS	0.84	0.42	50.00	-0.42	0.13	WEED
ANTHROPOLOGY	0.25	0.26	104.00	0.01	0.31	
BASIC NEEDS-FOOD, CLOTHING, SHELTER	0.30	0.23	76.66	-0.07	0.07	
COMMUNICATIONS	0.18	0.11	61.11	-0.07	0.20	
COMMUNITY LIFE	1.09	0.80	73.39	-0.29	0.22	WEED
ECONOMICS & INDUSTRY	0.69	0.62	89.85	-0.07	0.16	
FAMILY LIFE	0.43	0.33	76.74	-0.10	0.26	
FARM LIFE	0.37	0.17	45.94	-0.20	0.21	WEED
FOOD PRODUCTION	0.41	0.26	63.41	-0.15	0.16	WEED
GOVERNMENT	0.19	0.12	63.15	-0.07	0.30	
INDIANS OF NORTH AMERICA	0.38	0.39	102.63	0.01	0.38	ADD PRINTS
NATURAL RESOURCES	0.31	0.23	74.19	-0.08	0.21	
TRANSPORTATION	0.39	0.18	46.15	-0.21	0.11	WEED
AGRICULTURE-CROPS	0.26	0.22	84.61	-0.04	0.20	
AGRICULTURE-ECONOMICS & MANAGEMENT	0.15	0.15	100.00	0.00	0.28	
AGRICULTURE-ENGINEERING, MACHINERY & BLDGS	0.04	0.02	50.00	-0.02	0.06	

TABLE 1 - CONTINUED

SUBJECT AREAS, PERCENT HOLDINGS, PERCENT BOOKINGS, RELATIVE USE INDICATORS, DENIAL TO BOOKING RATIOS & COMMENTS

SUBJECT	% HLDGS	% BKGS	% OF EXPECTED USE	%BKGS-%HLDGS	D/B RATIO	COMMENTS
AGRICULTURE-GENERAL	0.52	0.49	94.23	-0.03	0.12	
AGRICULTURE-LIVESTOCK & POULTRY	0.21	0.22	104.76	0.01	0.19	
FORESTRY & FOREST CONSERVATION	0.37	0.31	83.78	-0.06	0.09	
4-H CLUBS	0.05	0.04	80.00	-0.01	0.09	
INSECT CONTROL	0.06	0.06	100.00	0.00	0.12	
PLANT SCIENCE	0.09	0.11	122.22	0.02	0.46	ADD PRINTS
SOIL & WATER CONSERVATION	0.25	0.24	96.00	-0.01	0.11	
VETERINARY MEDICINE	0.08	0.06	75.00	-0.02	0.15	
ACCOUNTING & BOOKKEEPPING	0.10	0.12	120.00	0.02	0.05	
AUTOMATION & DATA PROCESSING	0.87	1.36	156.32	0.49	0.26	ADD TITLES
BUSNIESS EDUCATION	0.46	0.70	152.17	0.24	0.62	ADD TITLES & PRINTS
CONSUMER EDUCATION	1.61	2.29	142.23	0.68	0.19	ADD TITLES
ECONOMIC SYSTEM-US	0.84	1.00	119.04	0.16	0.27	
ECONOMICS-GENERAL	0.82	0.90	109.75	0.08	0.36	ADD PRINTS
JOB ANALYSIS	0.12	0.20	166.66	0.08	0.62	ADD PRINTS
LABOR	0.54	0.75	138.88	0.21	0.25	ADD TITLES
MANUFACTURING PROCESSES	0.50	0.83	166.00	0.33	0.27	ADD TITLES
MARKETING	0.33	0.40	121.21	0.07	0.35	ADD PRINTS
MONEY & BANKING	0.50	0.52	104.00	0.02	0.20	
INDUSTRIAL & PERSONNEL MANAGEMENT	0.93	1.29	138.70	0.36	0.52	ADD TITLES & PRINTS
SALESMANSHIP	0.39	0.58	148.71	0.19	0.19	ADD TITLES
SECRETARIAL SKILLS	0.92	1.14	123.91	0.22	0.16	
VOCATIONAL GUIDANCE	1.37	2.13	155.47	0.76	0.24	ADD TITLES
ADULT EDUCATION	0.09	0.09	100.00	0.00	0.17	
AUDIOVISUAL INSTRUCTION	0.25	0.16	64.00	-0.09	0.33	ADD PRINTS
CHILD DEVELOPMENT	1.49	2.23	149.66	0.74	0.33	ADD TITLES & PRINTS
EDUCATIONAL PSYCHOLOGY & METHOD	1.06	1.65	155.66	0.59	0.36	ADD TITLES & PRINTS
ELEMENTARY EDUCATION	0.50	0.39	78.00	-0.11	0.24	
GUIDANCE & COUNSELING	1.38	1.62	117.39	0.24	0.37	ADD PRINTS
HISTORY & PHILOSOPHY OF EDUCATION	0.17	0.19	111.76	0.02	0.14	
LIBRARY SCIENCE	0.02	0.01	50.00	-0.01	0.00	
SCHOOL ADMINISTRATION	0.13	0.08	61.53	-0.05	0.16	
SECONDARY EDUCATION	0.61	0.26	42.62	-0.35	0.14	WEED
SPECIAL EDUCATION	0.83	0.95	114.45	0.12	0.32	
TEACHING CAREERS	0.06	0.03	50.00	-0.03	0.21	
TESTS & MEASUREMENT	0.25	0.35	140.00	0.10	0.22	
UNIVERSITIES & COLLEGES	0.18	0.11	61.11	-0.07	0.12	
VOCATIONAL EDUCATION	0.12	0.13	108.33	0.01	0.23	
LANGUAGE & LANGUAGE TEACHING	0.37	0.22	59.45	-0.15	0.16	WEED
FRENCH LANGUAGE	1.15	1.50	130.43	0.35	0.14	ADD TITLES
FRANCE	1.30	2.00	153.84	0.70	0.19	ADD TITLES
GERMAN LANGUAGE	0.91	1.16	127.47	0.25	0.21	ADD TITLES
GERMANY	0.28	0.41	146.42	0.13	0.17	
LATIN LANGUAGE	0.05	0.04	80.00	-0.01	0.07	

TABLE 1 - CONTINUED

SUBJECT AREAS, PERCENT HOLDINGS, PERCENT BOOKINGS, RELATIVE USE INDICATORS, DENIAL TO BOOKING RATIOS & COMMENTS

SUBJECT	% HLDGS	% BKGS	% OF EXPECTED USE	%BKGS-%HLDGS	D/B RATIO	COMMENTS
ANCIENT ROME	0.37	0.52	140.54	0.15	0.13	ADD TITLES
RUSSIAN LANGUAGE	0.05	0.01	20.00	-0.04	0.00	
RUSSIA	0.33	0.35	106.06	0.02	0.12	
SPANISH LANGUAGE	1.92	2.19	114.06	0.27	0.14	
PORTUGUESE LANGUAGE	0.01	0.00	0.00	-0.01	0.00	
SPAIN & PORTUGAL	0.89	1.11	124.71	0.22	0.16	
LATIN AMERICA	1.52	1.86	122.36	0.34	0.15	
CITIES-US	0.38	0.46	121.05	0.08	0.34	ADD PRINTS
DESERTS-US	0.09	0.08	88.88	-0.01	0.31	
GREAT LAKES	0.08	0.12	150.00	0.04	0.09	
NATIONAL PARKS-US	0.21	0.24	114.28	0.03	0.19	
RIVERS-US	0.18	0.12	66.66	-0.06	0.14	
STATES-ALASKA	0.11	0.06	54.54	-0.05	0.10	
STATES-CENTRAL	0.24	0.17	70.83	-0.07	0.27	
STATES-EASTERN	0.11	0.06	54.54	-0.05	0.36	ADD PRINTS
STATES-HAWAII & ISLAND TERRITORIES	0.10	0.09	90.00	-0.01	0.07	
STATES-WESTERN	0.33	0.33	100.00	0.00	0.19	
STATES-ROCKY MOUNTAIN	0.15	0.15	100.00	0.00	0.23	
STATES-SOUTHERN	0.24	0.18	75.00	-0.06	0.11	
US GEOGRAPHY-GENERAL	0.22	0.22	100.00	0.00	0.19	
WASHINGTON, DC	0.05	0.02	40.00	-0.03	0.09	
AFRICA, CENTRAL	0.15	0.12	80.00	-0.03	0.29	
AFRICA, GENERAL	0.46	0.37	80.43	-0.09	0.19	
AFRICA, NORTH	0.19	0.11	57.89	-0.08	0.14	
AFRICA, SOUTH	0.16	0.17	106.25	0.01	0.44	ADD PRINTS
ASIA-GENERAL	0.17	0.13	76.47	-0.04	0.32	
AUSTRALIA & NEW ZEALAND	0.21	0.16	76.19	-0.05	0.24	
CANADA	0.43	0.40	93.02	-0.03	0.28	
CENTRAL AMERICA	0.23	0.31	134.78	0.08	0.18	
CHINA	0.33	0.31	93.93	-0.02	0.16	
DESERTS-WORLD	0.07	0.04	57.14	-0.03	0.20	
EUROPE-EASTERN	0.13	0.06	46.15	-0.07	0.10	
EUROPE-WESTERN	0.08	0.06	75.00	-0.02	0.12	
FRANCE	0.24	0.38	158.33	0.14	0.29	
GERMANY	0.20	0.30	150.00	0.10	0.18	
GREAT BRITAIN	0.15	0.11	73.33	-0.04	0.22	
GREECE	0.15	0.17	113.33	0.02	0.04	
INDIA & PAKISTAN	0.24	0.24	100.00	0.00	0.20	
IRELAND	0.07	0.06	85.71	-0.01	0.14	
ITALY	0.12	0.15	125.00	0.03	0.36	ADD PRINTS
JAPAN	0.34	0.31	91.17	-0.03	0.21	
MAPS & GLOBES	0.23	0.20	86.95	-0.03	0.30	
MEXICO	0.42	0.55	130.95	0.13	0.22	
MIDDLE EAST	0.43	0.44	102.32	0.01	0.20	

TABLE 1 - CONTINUED

SUBJECT AREAS, PERCENT HOLDINGS, PERCENT BOOKINGS, RELATIVE USE INDICATORS, DENIAL TO BOOKING RATIOS & COMMENTS

SUBJECT	% HLDGS	% BKGS	% OF EXPECTED USE	%BKGS-%HLDGS	D/B RATIO	COMMENTS
NETHERLANDS & BELGIUM	0.08	0.03	37.50	-0.05	0.16	
NORTH AMERICA	0.04	0.04	100.00	0.00	0.43	ADD PRINTS
PACIFIC ISLANDS	0.18	0.18	100.00	0.00	0.30	
PHILIPPINE REPUBLIC	0.05	0.06	120.00	0.01	0.31	
POLAR REGIONS	0.26	0.22	84.61	-0.04	0.24	
RIVERS & OCEANS-WORLD	0.22	0.19	86.36	-0.03	0.10	
SCANDINAVIA & FINLAND	0.16	0.05	31.25	-0.11	0.15	
SOUTH AMERICA	0.73	0.95	130.13	0.22	0.18	ADD TITLES
SOUTHEAST ASIA	0.19	0.11	57.89	-0.08	0.25	
SPAIN & PORTUGAL	0.21	0.27	128.57	0.06	0.18	
SWITZERLAND & AUSTRIA	0.09	0.08	88.88	-0.01	0.17	
TRAVELOGUES	1.55	1.68	108.38	0.13	0.31	
USSR	0.31	0.32	103.22	0.01	0.14	
WEST INDIES	0.10	0.11	110.00	0.01	0.39	ADD PRINTS
WORLD GEOGRAPHY-GENERAL	0.27	0.31	114.81	0.04	0.17	
GUIDANCE-DATING & COURTSHIP	0.31	0.22	70.96	-0.09	0.17	
GUIDANCE-EDUCATIONAL	0.37	0.41	110.81	0.04	0.47	ADD PRINTS
GUIDANCE-MARRIAGE & FAMILY LIFE	1.15	1.53	133.04	0.38	0.35	ADD TITLES & PRINTS
GUIDANCE-PERSONAL & SOCIAL	4.35	5.03	115.63	0.68	0.32	
GUIDANCE-VOCATIONAL	2.48	3.43	138.30	0.95	0.22	ADD TITLES
ALCOHOL, TOBACCO & DRUGS	0.99	0.96	96.96	-0.03	0.17	
DENTAL HEALTH	0.04	0.02	50.00	-0.02	0.12	
DIET & NUTRITION	0.66	1.07	162.12	0.41	0.24	ADD TITLES
DISEASES	0.53	0.70	132.07	0.17	0.36	ADD TITLES & PRINTS
FIRST AID	0.19	0.25	131.57	0.06	0.15	
HEALTH & HYGIENE	0.66	0.77	116.66	0.11	0.36	ADD PRINTS
HUMAN PHYSIOLOGY	1.74	2.03	116.66	0.29	0.22	
MEDICINE	0.63	0.88	139.68	0.25	0.39	ADD TITLES & PRINTS
MENTAL HEALTH	0.55	0.93	169.09	0.38	0.36	ADD TITLES & PRINTS
NURSES & NURSING	0.10	0.15	150.00	0.05	0.18	
PREGNANCY & BIRTH	0.48	0.70	145.83	0.22	0.33	ADD TITLES & PRINTS
PUBLIC HEALTH	0.52	0.54	103.84	0.02	0.17	
SAFETY-GENERAL	0.44	0.54	122.72	0.10	0.15	
SAFETY-BICYCLE	0.06	0.04	66.66	-0.02	0.20	
SAFTEY-DRIVER EDUCATION	0.36	0.48	133.33	0.12	0.16	
SAFETY-FIRE PREVENTION	0.35	0.23	65.71	-0.12	0.19	
SAFETY-HOME	0.28	0.35	125.00	0.07	0.20	
SAFETY-INDUSTRIAL & SHOP	0.40	0.68	170.00	0.28	0.20	ADD TITLES
SAFETY-PEDESTRIAN	0.02	0.01	50.00	-0.01	0.31	
SAFETY-SCHOOL	0.04	0.02	50.00	-0.02	0.27	
SAFETY-WATER	0.07	0.06	85.71	-0.01	0.27	
FAMOUS AMERICANS	1.11	1.14	102.70	0.03	0.22	
FRONTIER & EXPANSION	0.30	0.30	100.00	0.00	0.17	
ILLINOIS-HISTORY	0.20	0.19	95.00	-0.01	0.24	

TABLE 1 - CONTINUED

SUBJECT AREAS, PERCENT HOLDINGS, PERCENT BOOKINGS, RELATIVE USE INDICATORS, DENIAL TO BOOKING RATIOS & COMMENTS

SUBJECT	% HLDGS	% BKGS	% OF EXPECTED USE	%BKGS-%HLDGS	D/B RATIO	COMMENTS
AFRO-AMERICAN HISTORY	0.78	0.85	108.97	0.07	0.16	
PRESIDENTS OF THE UNITED STATES	1.20	1.24	103.33	0.04	0.30	
US HISTORY-GENERAL	1.49	1.63	109.39	0.14	0.19	
US HISTORY-DISCOVERY & EXPLORATION	0.17	0.17	100.00	0.00	0.27	
US HISTORY-COLONIAL PERIOD TO 1776	0.74	0.75	101.35	0.01	0.23	
US HISTORY-REVOLUTIONARY PERIOD TO 1783	0.70	0.56	80.00	-0.14	0.17	
US HISTORY-1783-CIVIL WAR	1.35	1.25	92.59	-0.10	0.18	
US HISTORY-CIVIL WAR PERIOD TO 1900	1.31	1.39	106.10	0.08	0.15	
US HISTORY-1900-PRESENT	2.42	2.98	123.14	0.56	0.25	
AFRICA-HISTORY	0.28	0.20	71.42	-0.08	0.37	ADD PRINTS
ASIA-HISTORY	0.59	0.53	89.83	-0.06	0.33	ADD PRINTS
BIOGRAPHY	1.62	1.97	121.60	0.35	0.28	
EUROPE (GENERAL)-HISTORY	1.55	1.77	114.19	0.22	0.17	
FRANCE-HISTORY	0.55	0.77	140.00	0.22	0.10	ADD TITLES
GERMANY-HISTORY	0.39	0.51	130.76	0.12	0.16	
GREAT BRITAIN-HISTORY	0.90	0.85	94.44	-0.05	0.17	
LATIN AMERICA-HISTORY	0.40	0.66	165.00	0.26	0.15	ADD TITLES
MIDDLE EAST-HISTORY	0.47	0.46	97.87	-0.01	0.23	
NORTH AMERICA-HISTORY	0.22	0.20	90.90	-0.02	0.31	
RUSSIA-HISTORY	0.43	0.59	137.20	0.16	0.23	ADD TITLES
WORLD HISTORY-GENERAL	1.09	1.20	110.09	0.11	0.18	
WORLD HISTORY-PREHISTORIC	0.27	0.33	122.22	0.06	0.32	
WORLD HISTORY-ANCIENT	1.49	1.93	129.53	0.44	0.16	ADD TITLES
WORLD HISTORY-MEDIEVAL	0.36	0.45	125.00	0.09	0.22	
WORLD HISTORY-RENAISSANCE	0.19	0.25	131.57	0.06	0.18	
WORLD HISTORY-AGE OF EXPLORATION	0.27	0.27	100.00	0.00	0.16	
WORLD HISTORY-MODERN	0.32	0.34	106.25	0.02	0.17	
WORLD HISTORY-TWENTIETH CENTURY	1.18	1.10	93.22	-0.08	0.35	ADD PRINTS
WORLD WAR I	0.33	0.39	118.18	0.06	0.16	
WORLD WAR II	0.82	1.03	125.60	0.21	0.30	ADD TITLES
CHILDREN-CARE & DEVELOPMENT	1.65	2.41	146.06	0.76	0.33	ADD TITLES & PRINTS
CLOTHING & SEWING	0.38	0.34	89.47	-0.04	0.13	
FAMILY LIFE	0.95	0.98	103.15	0.03	0.33	ADD PRINTS
FOOD & COOKING	1.11	1.49	134.23	0.38	0.17	ADD TITLES
4-H CLUBS	0.05	0.04	80.00	-0.01	0.11	
GROOMING	0.13	0.04	30.76	-0.09	0.03	
HOME ECONOMICS-GENERAL	0.86	1.28	148.83	0.42	0.15	ADD TITLES
HOME MANAGEMENT & DECORATING	0.38	0.40	105.26	0.02	0.17	
LANDSCAPE GARDENING	0.04	0.06	150.00	0.02	0.44	ADD PRINTS
AUTOMOBILE MECHANICS	0.19	0.35	184.21	0.16	0.24	ADD TITLES
AVIATION	0.17	0.15	88.23	-0.02	0.16	
CONSTRUCTION	0.37	0.66	178.37	0.29	0.24	ADD TITLES
ELECTRICAL WORK & ELECTRONICS	0.92	1.02	110.86	0.10	0.11	
ENGINEERING	0.17	0.24	141.17	0.07	0.21	

TABLE 1 - CONTINUED

SUBJECT AREAS, PERCENT HOLDINGS, PERCENT BOOKINGS, RELATIVE USE INDICATORS, DENIAL TO BOOKING RATIOS & COMMENTS

SUBJECT	% HLDGS	% BKGS	% OF EXPECTED USE	%BKGS-%HLDGS	D/B RATIO	COMMENTS
ENGINES & POWER SYSTEMS	0.21	0.31	147.61	0.10	0.27	
INDUSTRIAL ARTS-GENERAL	0.52	0.76	146.15	0.24	0.24	ADD TITLES
MACHINE SHOP & METALWORK	0.80	1.00	125.00	0.20	0.14	ADD TITLES
MECHANICAL & ENGINEERING DRAWING	0.36	0.44	122.22	0.08	0.18	
PHOTOGRAPHY	0.45	0.59	131.11	0.14	0.33	ADD PRINTS
PLASTICS	0.10	0.19	190.00	0.09	0.07	
PLUMBING	0.04	0.06	150.00	0.02	0.05	
PRINTING & GRAPHIC ARTS	0.17	0.31	182.35	0.14	0.22	
REFRIGERATION	0.02	0.03	150.00	0.01	0.19	
SHOP SAFETY	0.48	0.82	170.83	0.34	0.17	ADD TITLES
VOCATIONAL GUIDANCE	0.45	0.75	166.66	0.30	0.25	ADD TITLES
WOODWORK	0.86	1.12	130.23	0.26	0.14	ADD TITLES
CREATIVE MOTIVATION	0.93	1.11	119.35	0.18	0.36	ADD PRINTS
DISCUSSION TECHNIQUES	0.24	0.17	70.83	-0.07	0.19	
GRAMMAR	0.10	0.09	90.00	-0.01	0.24	
JOURNALISM	0.47	0.75	159.57	0.28	0.16	ADD TITLES
LIBRARIES & BOOKS	0.14	0.10	71.42	-0.04	0.23	
LINGUISTICS	0.49	0.22	44.89	-0.27	0.04	WEED
READING	0.34	0.23	67.64	-0.11	0.17	
SPEECH	0.68	0.67	98.52	-0.01	0.30	
STUDY SKILLS	0.62	0.55	88.70	-0.07	0.34	ADD PRINTS
VOCABULARY & SPELLING	0.18	0.16	88.88	-0.02	0.23	
WRITING	0.51	0.63	123.52	0.12	0.20	
AUTHORS & PHILOSOPHERS	1.89	2.08	110.05	0.19	0.23	
DRAMA	1.62	1.74	107.40	0.12	0.23	
FOLKLORE	0.35	0.51	145.71	0.16	0.21	ADD TITLES
LITERATURE-GENERAL	1.66	1.76	106.02	0.10	0.16	
NOVELS	0.87	1.05	120.68	0.18	0.25	
POETRY	0.58	0.52	89.65	-0.06	0.18	
SATIRE	0.35	0.45	128.57	0.10	0.35	ADD PRINTS
SCIENCE FICTION	0.02	0.02	100.00	0.00	0.33	ADD PRINTS
SHORT STORIES	1.48	1.77	119.59	0.29	0.22	
ALGEBRA	0.11	0.09	81.81	-0.02	0.11	
ARITHMETIC	0.22	0.17	77.27	-0.05	0.09	
CALCULUS	0.12	0.19	158.33	0.07	0.19	
COMPUTERS	0.60	0.95	158.33	0.35	0.20	ADD TITLES
GEOMETRY	0.34	0.30	88.23	-0.04	0.20	
MATHEMATICS-GENERAL	0.29	0.31	106.89	0.02	0.09	
MATHEMATICS-HISTORY	0.08	0.06	75.00	-0.02	0.26	
MATHEMATICS-TEACHING METHODS	0.22	0.04	18.18	-0.18	0.33	WEED & ADD PRINTS
MEASUREMENT	0.45	0.49	108.88	0.04	0.21	
PROBABILITY & STATISTICS	0.07	0.09	128.57	0.02	0.21	
SETS & NUMBER SYSTEMS	0.05	0.02	40.00	-0.03	0.13	
TRIGONOMETRY	0.01	0.00	0.00	-0.01	0.00	

TABLE 1 - CONTINUED

SUBJECT AREAS, PERCENT HOLDINGS, PERCENT BOOKINGS, RELATIVE USE INDICATORS, DENIAL TO BOOKING RATIOS & COMMENTS

SUBJECT	% HLDGS	% BKGS	% OF EXPECTED USE	%BKGS-%HLDGS	D/B RATIO	COMMENTS
DANCE	0.79	1.18	149.36	0.39	0.43	ADD TITLES & PRINTS
DANCE, FOLK & NATIONAL	0.17	0.17	100.00	0.00	0.27	
MUSIC, AMERICAN	0.44	0.55	125.00	0.11	0.21	
MUSIC, ANALYSIS, APPRECIATION	0.73	0.92	126.02	0.19	0.19	ADD TITLES
MUSIC EDUCATION	0.31	0.29	93.54	-0.02	0.31	
MUSIC OF OTHER LANDS	0.27	0.34	125.92	0.07	0.19	
MUSIC, INSTRUMENTAL SELECTIONS	0.51	0.52	101.96	0.01	0.54	ADD PRINTS
MUSIC, VOCAL SELECTIONS	0.22	0.20	90.90	-0.02	0.27	
MUSICAL INSTRUMENTS	0.63	0.73	115.87	0.10	0.30	
MUSICIANS	0.42	0.48	114.28	0.06	0.35	ADD PRINTS
OPERA & OPERETTA	0.16	0.11	68.75	-0.05	0.08	
THEATER	1.18	1.31	111.01	0.13	0.27	
BASEBALL	0.10	0.06	60.00	-0.04	0.30	
BASKETBALL	0.18	0.11	61.11	-0.07	0.10	
DANCE	0.34	0.44	129.41	0.10	0.58	ADD PRINTS
FOOTBALL	0.12	0.08	66.66	-0.04	0.29	
GOLF	0.04	0.06	150.00	0.02	0.44	ADD PRINTS
GYMNASTICS	0.20	0.10	50.00	-0.10	0.12	
HORSEBACK RIDING	0.04	0.03	75.00	-0.01	0.10	
HUNTING & FISHING	0.06	0.05	83.33	-0.01	0.28	
PHYSICAL FITNESS	0.43	0.52	120.93	0.09	0.31	
RECREATION	0.26	0.27	103.84	0.01	0.27	
SOFTBALL	0.02	0.01	50.00	-0.01	0.54	ADD PRINTS
SPORTS, MISCELLANEOUS	0.57	0.58	101.75	0.01	0.28	
SWIMMING & WATER SPORTS	0.21	0.13	61.90	-0.08	0.19	
TENNIS	0.07	0.06	85.71	-0.01	0.28	
TRACK & FIELD	0.17	0.12	70.58	-0.05	0.28	
VOLLEYBALL	0.05	0.05	100.00	0.00	0.25	
WINTER SPORTS	0.06	0.05	83.33	-0.01	0.32	
WRESTLING	0.12	0.08	66.66	-0.04	0.19	
CITIZENSHIP	0.33	0.35	106.06	0.02	0.22	
COMMUNISM	0.56	0.53	94.64	-0.03	0.28	
DEMOCRACY	0.35	0.39	111.42	0.04	0.35	ADD PRINTS
INTERNATIONAL RELATIONS	0.99	0.91	91.91	-0.08	0.44	ADD PRINTS
LAW	0.83	0.97	116.86	0.14	0.30	
POLITICAL SCIENCE-GENERAL	0.91	1.13	124.17	0.22	0.36	ADD PRINTS
UNITED NATIONS	0.20	0.18	90.00	-0.02	0.37	ADD PRINTS
US-CONSTITUTION & CIVIL RIGHTS	1.32	1.48	112.12	0.16	0.21	
US-FOREIGN POLICY	0.30	0.27	90.00	-0.03	0.41	ADD PRINTS
US-POLITICS & GOVERNMENT	1.75	1.84	105.14	0.09	0.31	
US-STATE & LOCAL GOVERNMENT	0.35	0.33	94.28	-0.02	0.22	
ADOLESCENCE	1.02	1.17	114.70	0.15	0.25	
CHILD GROWTH & DEVELOPMENT	1.63	2.38	146.01	0.75	0.33	ADD TITLES & PRINTS
EDUCATIONAL PSYCHOLOGY	0.91	1.45	159.34	0.54	0.37	ADD TITLES & PRINTS

TABLE 1 - CONTINUED

SUBJECT AREAS, PERCENT HOLDINGS, PERCENT BOOKINGS, RELATIVE USE INDICATORS, DENIAL TO BOOKING RATIOS & COMMENTS

SUBJECT	% HLDGS	% BKGS	% OF EXPECTED USE	%BKGS-%HLDGS	D/B RATIO	COMMENTS
INDUSTRIAL PSYCHOLOGY	0.50	0.68	136.00	0.18	0.60	ADD TITLES & PRINTS
MENTAL HEALTH	0.81	1.24	153.08	0.43	0.31	ADD TITLES
NERVOUS SYSTEM & PERCEPTION	0.47	0.66	140.42	0.19	0.16	ADD TITLES
PSYCHOLOGY-GENERAL	1.68	2.15	127.97	0.47	0.31	ADD TITLES
RESEARCH & TESTING	0.81	1.10	135.80	0.29	0.25	ADD TITLES
HISTORY OF SCIENCE	1.77	2.16	122.03	0.39	0.10	
LABORATORY TECHNIQUES	0.28	0.26	92.85	-0.02	0.30	
SCIENTIFIC METHOD	1.65	2.20	133.33	0.55	0.36	ADD TITLES & PRINTS
SCIENCE-GENERAL	2.07	2.29	110.62	0.22	0.15	
BIOCHEMISTRY	0.35	0.40	114.28	0.05	0.70	ADD PRINTS
BIOLOGY-GENERAL	0.47	0.56	119.14	0.09	0.38	ADD PRINTS
BOTANY	0.83	0.74	89.15	-0.09	0.20	
CELLULAR BIOLOGY	0.41	0.42	102.43	0.01	0.36	ADD PRINTS
CONSERVATION OF NATURAL RESOURCES	1.36	1.35	99.26	-0.01	0.21	
ECOLOGY-ARCTIC	0.08	0.06	75.00	-0.02	0.14	
ECOLOGY-DESERT	0.13	0.10	76.92	-0.03	0.22	
ECOLOGY-FOREST	0.19	0.17	89.47	-0.02	0.11	
ECOLOGY-GENERAL	0.99	1.06	107.07	0.07	0.23	
ECOLOGY-GRASSLANDS	0.07	0.05	71.42	-0.02	0.24	
ECOLOGY-MARINE	0.35	0.37	105.71	0.02	0.17	
ECOLOGY-POND & MARSH	0.12	0.11	91.66	-0.01	0.32	
GENETICS & HEREDITY	0.81	0.75	92.59	-0.06	0.30	
MICROBIOLOGY	0.36	0.35	97.22	-0.01	0.24	
ZOOLOGY-EVOLUTION & ADAPTATION	0.48	0.41	85.41	-0.07	0.21	
ZOOLOGY-GENERAL	0.72	0.60	83.33	-0.12	0.22	
ZOOLOGY-REPRODUCTION	0.21	0.12	57.14	-0.09	0.14	
ZOOLOGY-INVERTEBRATES	0.26	0.25	96.15	-0.01	0.16	
ZOOLOGY-LOWER VERTEBRATES	0.02	0.02	100.00	0.00	0.04	
ZOOLOGY-INSECTS	0.35	0.29	82.85	-0.06	0.20	
ZOOLOGY-FISH	0.17	0.12	70.58	-0.05	0.14	
ZOOLOGY-REPTILES & AMPHIBIANS	0.20	0.13	65.00	-0.07	0.21	
ZOOLOGY-BIRDS	0.27	0.20	74.07	-0.07	0.18	
ZOOLOGY-MAMMALS	0.50	0.52	104.00	0.02	0.28	
CHEMISTRY	0.90	0.82	91.11	-0.08	0.18	
EARTH SCIENCE-ATMOSPHERE	0.18	0.20	111.11	0.02	0.20	
EARTH SCIENCE-CLIMATE & WEATHER	0.69	0.68	98.55	-0.01	0.14	
EARTH SCIENCE-GEOLOGY	1.10	1.46	132.72	0.36	0.20	ADD TITLES
EARTH SCIENCE-OCEANOGRAPHY	0.46	0.54	117.39	0.08	0.31	
EARTH SCIENCE-PALEONTOLOGY	0.35	0.38	108.57	0.03	0.12	
PHYSICS-GENERAL	0.03	0.03	100.00	0.00	0.28	
PHYSICS-AIR	0.03	0.03	100.00	0.00	0.14	
PHYSICS-ATOMIC & NUCLEAR ENERGY	0.63	0.58	92.06	-0.05	0.21	
PHYSICS-ELECTRICITY & MAGNETISM	0.89	0.88	98.87	-0.01	0.10	
PHYSICS-ENERGY & MATTER	0.53	0.61	115.09	0.08	0.19	

TABLE 1 - CONTINUED

SUBJECT AREAS, PERCENT HOLDINGS, PERCENT BOOKINGS, RELATIVE USE INDICATORS, DENIAL TO BOOKING RATIOS & COMMENTS

SUBJECT	% HLDGS	% BKGS	% OF EXPECTED USE	%BKGS-%HLDGS	D/B RATIO	COMMENTS
PHYSICS-FORCE & MOTION	0.16	0.13	81.25	-0.03	0.53	ADD PRINTS
PHYSICS-HEAT & FRICTION	0.17	0.15	88.23	-0.02	0.14	
PHYSICS-LIGHT & COLOR	0.38	0.38	100.00	0.00	0.16	
PHYSICS-LIQUIDS & HYDRAULICS	0.13	0.11	84.61	-0.02	0.19	
PHYSICS-MECHANICS	0.38	0.37	97.36	-0.01	0.27	
PHYSICS-SOUND	0.20	0.22	110.00	0.02	0.24	
SPACE SCIENCE & ASTRONOMY	1.46	1.67	114.38	0.21	0.17	
BASIC NEEDS-CLOTHING, FOOD, SHELTER	0.36	0.49	136.11	0.13	0.24	
COMMUNICATIONS	1.68	2.21	131.54	0.53	0.35	ADD TITLES & PRINTS
COMMUNITY LIFE	2.55	2.99	117.25	0.44	0.31	
FISHING INDUSTRY	0.10	0.08	80.00	-0.02	0.32	
FOOD PRODUCTION	0.68	0.78	114.70	0.10	0.20	
MANUFACTURING & COMMERCE	1.61	1.90	118.01	0.29	0.24	
MINING	0.19	0.20	105.26	0.01	0.29	
NATURAL RESOURCES	1.34	1.45	108.20	0.11	0.26	
RELIGION & PHILOSOPHY	1.55	2.04	131.61	0.49	0.27	ADD TITLES
TRANSPORTATION-AIR	0.15	0.13	86.66	-0.02	0.17	
TRANSPORTATION-LAND	0.35	0.33	94.28	-0.02	0.22	
TRANSPORTATION-WATER	0.24	0.18	75.00	-0.06	0.18	
ANTHROPOLOGY & ARCHEOLOGY	2.23	2.55	114.34	0.32	0.30	
AUTOMATION	0.53	0.83	156.60	0.30	0.28	ADD TITLES
CRIME & CRIMINOLOGY	0.60	0.73	121.66	0.13	0.27	
DEATH & DYING	0.01	0.01	100.00	0.00	0.71	ADD PRINTS
ENVIRONMENTAL POLLUTION	0.89	1.05	117.97	0.16	0.24	
GERIATRICS	0.39	0.54	138.46	0.15	0.36	ADD TITLES & PRINTS
HUMAN RELATIONS	4.15	5.57	134.21	1.42	0.32	ADD TITLES
INDIANS OF NORTH AMERICA	0.85	0.91	107.05	0.06	0.28	
JUVENILE DELINQUENCY	0.24	0.30	125.00	0.06	0.36	ADD PRINTS
LEISURE	0.30	0.23	76.66	-0.07	0.23	
MARRIAGE & THE FAMILY	0.87	1.22	140.22	0.35	0.35	ADD TITLES & PRINTS
POPULATION	0.31	0.33	106.45	0.02	0.18	
SOCIAL PROBLEMS	3.89	4.79	123.13	0.90	0.27	
SOCIAL WORK	0.27	0.27	100.00	0.00	0.26	
URBANIZATION	0.74	0.88	118.91	0.14	0.24	
WOMEN	0.67	0.83	123.88	0.16	0.43	ADD PRINTS
ARCHITECTURE	0.93	1.06	113.97	0.13	0.26	
ART EDUCATION	0.86	1.06	123.25	0.20	0.16	
ART-GALLERIES & MUSEUMS	0.21	0.25	119.04	0.04	0.15	
ART-HISTORY (GENERAL)	0.82	1.17	142.68	0.35	0.33	ADD TITLES & PRINTS
ART-ORIENTAL	0.19	0.17	89.47	-0.02	0.32	
ART-PRIMITIVE	0.22	0.27	122.72	0.05	0.17	
ART-ANCIENT & CLASSICAL	0.15	0.17	113.33	0.02	0.28	
ART-MEDIEVAL	0.09	0.11	122.22	0.02	0.10	
ART-RENAISSANCE & BAROQUE	0.30	0.38	126.66	0.08	0.16	

TABLE 1 - CONTINUED

SUBJECT AREAS, PERCENT HOLDINGS, PERCENT BOOKINGS, RELATIVE USE INDICATORS, DENIAL TO BOOKING RATIOS & COMMENTS

SUBJECT	% HLDGS	% BKGS	% OF EXPECTED USE	%BKGS-%HLDGS	D/B RATIO	COMMENTS
ART-MODERN	1.17	1.35	115.38	0.18	0.22	
CERAMICS	0.50	0.68	136.00	0.18	0.19	ADD TITLES
DESIGN	0.53	0.67	126.41	0.14	0.33	ADD PRINTS
DRAWING	0.37	0.45	121.62	0.08	0.15	
FILM & FILM STUDY	3.65	4.45	121.91	0.80	0.30	
TELEVISION PRODUCTIONS	0.02	0.00	0.00	-0.02	0.00	
FILMMAKING	0.01	0.00	0.00	-0.01	0.00	
FEATURE FILM	0.53	0.37	69.81	-0.16	0.22	WEED
FEATURE FILM EXCERPTS	0.40	0.37	92.50	-0.03	0.44	ADD PRINTS
FEATURE FILM EDITIONS	0.07	0.05	71.42	-0.02	0.23	
ANIMATION	0.06	0.00	0.00	-0.06	0.00	
HANDICRAFTS	0.90	0.91	101.11	0.01	0.19	
LANDSCAPE GARDENING	0.06	0.08	133.33	0.02	0.43	ADD PRINTS
METALWORK	0.15	0.18	120.00	0.03	0.44	ADD PRINTS
PAINTING	1.49	1.67	112.08	0.18	0.19	
PAPERCRAFTS	0.09	0.03	33.33	-0.06	0.07	
PHOTOGRAPHY	0.57	0.69	121.05	0.12	0.29	
PRINTING & LITHOGRAPHY	0.35	0.44	125.71	0.09	0.16	
PUPPETS	0.04	0.03	75.00	-0.01	0.21	
SCULPTURE	0.54	0.55	101.85	0.01	0.18	
THEATRE ARTS	0.87	1.06	121.83	0.19	0.37	ADD PRINTS

TABLE 2
OVERUSED SUBJECT AREAS

SUBJECT	% HLDGS	% BKGS	% OF EXPECTED USE	%BKGS-%HLDGS	D/B RATIO
HUMAN RELATIONS	4.15	5.57	134.21	1.42	0.32
GUIDANCE-VOCATIONAL	2.48	3.43	138.30	0.95	0.22
VOCATIONAL GUIDANCE	1.37	2.13	155.47	0.76	0.24
CHILDREN-CARE & DEVELOPMENT	1.65	2.41	146.06	0.76	0.33
CHILD GROWTH & DEVELOPMENT	1.63	2.38	146.01	0.75	0.33
CHILD DEVELOPMENT	1.49	2.23	149.66	0.74	0.33
FRANCE	1.30	2.00	153.84	0.70	0.19
CONSUMER EDUCATION	1.61	2.29	142.23	0.68	0.19
EDUCATIONAL PSYCHOLOGY & METHOD	1.06	1.65	155.66	0.59	0.36
SCIENTIFIC METHOD	1.65	2.20	133.33	0.55	0.36
EDUCATIONAL PSYCHOLOGY	0.91	1.45	159.34	0.54	0.37
COMMUNICATIONS	1.68	2.21	131.54	0.53	0.35
AUTOMATION & DATA PROCESSING	0.87	1.36	156.32	0.49	0.26
RELIGION & PHILOSOPHY	1.55	2.04	131.61	0.49	0.27
PSYCHOLOGY-GENERAL	1.68	2.15	127.97	0.47	0.31
WORLD HISTORY-ANCIENT	1.49	1.93	129.53	0.44	0.16
MENTAL HEALTH	0.81	1.24	153.08	0.43	0.31
HOME ECONOMICS-GENERAL	0.86	1.28	148.83	0.42	0.15
DIET & NUTRITION	0.66	1.07	162.12	0.41	0.24
DANCE	0.79	1.18	149.36	0.39	0.43
GUIDANCE-MARRIAGE & FAMILY LIFE	1.15	1.53	133.04	0.38	0.35
MENTAL HEALTH	0.55	0.93	169.09	0.38	0.36
FOOD & COOKING	1.11	1.49	134.23	0.38	0.17
INDUSTRIAL & PERSONNEL MANAGEMENT	0.93	1.29	138.70	0.36	0.52
EARTH SCIENCE-GEOLOGY	1.10	1.46	132.72	0.36	0.20
FRENCH LANGUAGE	1.15	1.50	130.43	0.35	0.14
COMPUTERS	0.60	0.95	158.33	0.35	0.20
MARRIAGE & THE FAMILY	0.87	1.22	140.22	0.35	0.35
ART-HISTORY (GENERAL)	0.82	1.17	142.68	0.35	0.33
SHOP SAFETY	0.48	0.82	170.83	0.34	0.17
MANUFACTURING PROCESSES	0.50	0.83	166.00	0.33	0.27
VOCATIONAL GUIDANCE	0.45	0.75	166.66	0.30	0.25
AUTOMATION	0.53	0.83	156.60	0.30	0.28
CONSTRUCTION	0.37	0.66	178.37	0.29	0.24
RESEARCH & TESTING	0.81	1.10	135.80	0.29	0.25
SAFETY-INDUSTRIAL & SHOP	0.40	0.68	170.00	0.28	0.20
JOURNALISM	0.47	0.75	159.57	0.28	0.18
LATIN AMERICA-HISTORY	0.40	0.66	165.00	0.26	0.15
WOODWORK	0.86	1.12	130.23	0.26	0.14
GERMAN LANGUAGE	0.91	1.16	127.47	0.25	0.21
MEDICINE	0.63	0.88	139.68	0.25	0.39
BUSNIESS EDUCATION	0.46	0.70	152.17	0.24	0.62
INDUSTRIAL ARTS-GENERAL	0.52	0.76	146.15	0.24	0.24
SOUTH AMERICA	0.73	0.95	130.13	0.22	0.18

TABLE 2 - CONTINUED
OVERUSED SUBJECT AREAS

SUBJECT	% HLDGS	% BKGS	% OF EXPECTED USE	%BKGS-%HLDGS	D/B RATIO
PREGNANCY & BIRTH	0.48	0.70	145.83	0.22	0.33
FRANCE-HISTORY	0.55	0.77	140.00	0.22	0.10
LABOR	0.54	0.75	138.88	0.21	0.25
WORLD WAR II	0.82	1.03	125.60	0.21	0.30
MACHINE SHOP & METALWORK	0.80	1.00	125.00	0.20	0.14
SALESMANSHIP	0.39	0.58	148.71	0.19	0.19
MUSIC, ANALYSIS, APPRECIATION	0.73	0.92	126.02	0.19	0.19
NERVOUS SYSTEM & PERCEPTION	0.47	0.66	140.42	0.19	0.16
INDUSTRIAL PSYCHOLOGY	0.50	0.68	136.00	0.18	0.60
CERAMICS	0.50	0.68	136.00	0.18	0.19
DISEASES	0.53	0.70	132.07	0.17	0.36
RUSSIA-HISTORY	0.43	0.59	137.20	0.16	0.23
AUTOMOBILE MECHANICS	0.19	0.35	184.21	0.16	0.24
FOLKLORE	0.35	0.51	145.71	0.16	0.21
ANCIENT ROME	0.37	0.52	140.54	0.15	0.13
GERIATRICS	0.39	0.54	138.46	0.15	0.36

TABLE 3
SUBJECT AREAS WITH THE HIGHEST DENIAL TO BOOKING RATIOS

SUBJECT	% HLDGS	% BKGS	% OF EXPECTED USE	%BKGS-%HLDGS	D/B RATIO
STORIES-HOLIDAYS & SEASONS	0.47	0.19	40.42	-0.28	0.74
DEATH & DYING	0.01	0.01	100.00	0.00	0.71
BIOCHEMISTRY	0.35	0.40	114.28	0.05	0.70
BUSNIESS EDUCATION	0.46	0.70	152.17	0.24	0.62
JOB ANALYSIS	0.12	0.20	166.66	0.08	0.62
INDUSTRIAL PSYCHOLOGY	0.50	0.68	136.00	0.18	0.60
DANCE	0.34	0.44	129.41	0.10	0.58
MUSIC, INSTRUMENTAL SELECTIONS	0.51	0.52	101.96	0.01	0.54
SOFTBALL	0.02	0.01	50.00	-0.01	0.54
PHYSICS-FORCE & MOTION	0.16	0.13	81.25	-0.03	0.53
INDUSTRIAL & PERSONNEL MANAGEMENT	0.93	1.29	138.70	0.36	0.52
GUIDANCE-EDUCATIONAL	0.37	0.41	110.81	0.04	0.47
PLANT SCIENCE	0.09	0.11	122.22	0.02	0.46
DANCE	0.06	0.05	83.33	-0.01	0.45
AFRICA, SOUTH	0.16	0.17	106.25	0.01	0.44
LANDSCAPE GARDENING	0.04	0.06	150.00	0.02	0.44
GOLF	0.04	0.06	150.00	0.02	0.44
INTERNATIONAL RELATIONS	0.99	0.91	91.91	-0.08	0.44
FEATURE FILM EXCERPTS	0.40	0.37	92.50	-0.03	0.44
METALWORK	0.15	0.18	120.00	0.03	0.44
NORTH AMERICA	0.04	0.04	100.00	0.00	0.43
DANCE	0.79	1.18	149.36	0.39	0.43
WOMEN	0.67	0.83	123.88	0.16	0.43
LANDSCAPE GARDENING	0.06	0.08	133.33	0.02	0.43
US-FOREIGN POLICY	0.30	0.27	90.00	-0.03	0.41
PHYSICAL EDUCATION	0.12	0.09	75.00	-0.03	0.40
WEST INDIES	0.10	0.11	110.00	0.01	0.39
MEDICINE	0.63	0.88	139.38	0.25	0.39
INDIANS OF NORTH AMERICA	0.38	0.39	102.63	0.01	0.38
BIOLOGY-GENERAL	0.47	0.56	119.14	0.09	0.38
GUIDANCE & COUNSELING	1.38	1.62	117.39	0.24	0.37
AFRICA-HISTORY	0.28	0.20	71.42	-0.08	0.37
UNITED NATIONS	0.20	0.18	90.00	-0.02	0.37
EDUCATIONAL PSYCHOLOGY	0.91	1.45	159.34	0.54	0.37
THEATRE ARTS	0.87	1.06	121.83	0.19	0.37
ECONOMICS-GENERAL	0.82	0.90	109.75	0.08	0.36
EDUCATIONAL PSYCHOLOGY & METHOD	1.06	1.65	155.66	0.59	0.36
STATES-EASTERN	0.11	0.06	54.54	-0.05	0.36
ITALY	0.12	0.15	125.00	0.03	0.36
DISEASES	0.53	0.70	132.07	0.17	0.36
HEALTH & HYGIENE	0.66	0.77	116.66	0.11	0.36
MENTAL HEALTH	0.55	0.93	169.09	0.38	0.36
CREATIVE MOTIVATION	0.93	1.11	119.35	0.18	0.36
POLITICAL SCIENCE-GENERAL	0.91	1.13	124.17	0.22	0.36

TABLE 3 - CONTINUED
SUBJECT AREAS WITH THE HIGHEST DENIAL TO BOOKING RATIOS

SUBJECT	% HLDGS	% BKGS	% OF EXPECTED USE	%BKGS-%HLDGS	D/B RATIO
SCIENTIFIC METHOD	1.65	2.20	133.33	0.55	0.36
CELLULAR BIOLOGY	0.41	0.42	102.43	0.01	0.36
GERIATRICS	0.39	0.54	138.46	0.15	0.36
JUVENILE DELINQUENCY	0.24	0.30	125.00	0.06	0.36
MARKETING	0.33	0.40	121.21	0.07	0.35
GUIDANCE-MARRIAGE & FAMILY LIFE	1.15	1.53	133.04	0.38	0.35
WORLD HISTORY-TWENTIETH CENTURY	1.18	1.10	93.22	-0.08	0.35
SATIRE	0.35	0.45	128.57	0.10	0.35
MUSICIANS	0.42	0.48	114.28	0.06	0.35
DEMOCRACY	0.35	0.39	111.42	0.04	0.35
COMMUNICATIONS	1.68	2.21	131.54	0.53	0.35
MARRIAGE & THE FAMILY	0.87	1.22	140.22	0.35	0.35
STUDY SKILLS	0.48	0.34	70.83	-0.14	0.34
SCIENTIFIC METHOD	0.26	0.18	69.23	-0.08	0.34
CITIES-US	0.38	0.46	121.05	0.08	0.34
STUDY SKILLS	0.62	0.55	88.70	-0.07	0.34
MAPS & GLOBES	0.24	0.17	70.83	-0.07	0.33
CHEMICAL CHANGE	0.08	0.10	125.00	0.02	0.33
AUDIOVISUAL INSTRUCTION	0.25	0.16	64.00	-0.09	0.33
CHILD DEVELOPMENT	1.49	2.23	149.66	0.74	0.33
PREGNANCY & BIRTH	0.48	0.70	145.83	0.22	0.33
ASIA-HISTORY	0.59	0.53	89.83	-0.06	0.33
CHILDREN-CARE & DEVELOPMENT	1.65	2.41	146.06	0.76	0.33
FAMILY LIFE	0.95	0.98	103.15	0.03	0.33
PHOTOGRAPHY	0.45	0.59	131.11	0.14	0.33
SCIENCE FICTION	0.02	0.02	100.00	0.00	0.33
MATHEMATICS-TEACHING METHODS	0.22	0.04	18.18	-0.18	0.33
CHILD GROWTH & DEVELOPMENT	1.63	2.38	146.01	0.75	0.33
ART-HISTORY (GENERAL)	0.82	1.17	142.68	0.35	0.33
DESIGN	0.53	0.67	126.41	0.14	0.33

TABLE 4
UNDERUSED SUBJECT AREAS

SUBJECT	% HLDGS	% BKGS	% OF EXPECTED USE	%BKGS-%HLDGS	D/B RATIO
GUIDANCE	1.99	1.41	70.85	-0.58	0.27
WEATHER & SEASONS	0.84	0.42	50.00	-0.42	0.13
STORIES-ANIMALS	0.81	0.41	50.61	-0.40	0.18
SECONDARY EDUCATION	0.61	0.26	42.62	-0.35	0.14
ECOLOGY	0.78	0.44	56.41	-0.34	0.15
ANIMALS-HABITS & BEHAVIOR	0.66	0.34	51.51	-0.32	0.17
COMMUNITY LIFE	1.09	0.80	73.39	-0.29	0.22
STORIES-HOLIDAYS & SEASONS	0.47	0.19	40.42	-0.28	0.74
LINGUISTICS	0.49	0.22	44.89	-0.27	0.04
SAFETY	0.56	0.35	62.50	-0.21	0.18
TRANSPORTATION	0.39	0.18	46.15	-0.21	0.11
FARM LIFE	0.37	0.17	45.94	-0.20	0.21
STORIES-CARTOONS & COMEDIES	0.50	0.32	64.00	-0.18	0.14
MATHEMATICS-TEACHING METHODS	0.22	0.04	18.18	-0.18	0.33
US GEOGRAPHY-STATES & REGIONS	0.35	0.18	51.42	-0.17	0.11
HEALTH & HYGIENE	0.44	0.27	61.36	-0.17	0.22
ANIMALS-BIRDS	0.28	0.11	39.28	-0.17	0.10
BIOLOGY-GENERAL	0.39	0.23	58.97	-0.16	0.24
FEATURE FILM	0.53	0.37	69.81	-0.16	0.22
CONSERVATION	0.35	0.20	57.14	-0.15	0.14
FOOD PRODUCTION	0.41	0.26	63.41	-0.15	0.16
LANGUAGE & LANGUAGE TEACHING	0.37	0.22	59.45	-0.15	0.16